

## Atmospheric conditions during solar radiation measurements, Blue Hill Observatory of Harvard University

Date and time from apparent noon	Air temperature	Wind, Beaufort scale	Visibility (scale 0-10)	Sky-blue-ness	Cloudiness and remarks
<i>March 1936</i>					
2: 2.51 a. m. ....	-5.6	NE 3. ....	6	7	1 Stcu; dense haze.
2: 1.28 p. m. ....	-3.9	ENE 3. ....	8	7	Few Ci; 2 Cu; light haze.
4: 2.56 a. m. ....	+3.6	SSW 2. ....	7	7	1 Ci; mod. to dense haze.
4: 0.26 a. m. ....	+6.3	S 4. ....	7	7	Few Ci; Few Acu; mod. to dense haze; Acu. near sun; wind blowing in tube.
6: 2.07 a. m. ....	-1.9	WNW 4. ....	8	6	Zero clouds; mod. haze.
7: 3.23 a. m. ....	-7.2	N 3. ....	7	7	5 Ci; Few Stcu; light to mod. haze; thin Ci near sun.
8: 2.25 a. m. ....	-3.1	NW 1. ....	8	8	Few Ci; mod. to dense haze North.
10: 0.20 a. m. ....	+8.5	SE 1. ....	6	5	1 Acu; mod. haze.
13: 3.03 a. m. ....	+3.1	SW 6. ....	7	8	Few Frcu; light to mod. haze; gusty wind.
15: 0.19 a. m. ....	+7.9	ENE 1. ....	6	4	Zero clouds; dense haze.
16: 1.14 p. m. ....	+9.4	NNE 2. ....	7	4	Zero clouds; mod. haze.
20: 0.22 a. m. ....	+10.8	SSW 5. ....	7	6	1 Ci; 1 Stcu; mod. to dense water haze.
23: 3.22 a. m. ....	+4.4	WNW 5. ....	10	7	Few Ci.
24: 0.17 a. m. ....	+9.4	ENE 3. ....	8	7	2 Ci; few Acu; light to mod. haze.
26: 2.48 a. m. ....	+6.9	NW 2. ....	6	7	Few Ci; few Frcu; dense haze.
26: 0.02 a. m. ....	+11.1	W 2. ....	7	8	Few Ci; mod. haze.
28: 2.16 a. m. ....	+9.3	WNW 5. ....	8	8	Few Acu; few Frcu; light to mod. haze; wind gusty.
28: 0.24 a. m. ....	+10.9	WNW 5. ....	8	8	Few Acu; few Cu; light haze; wind gusty.
29: 3.08 a. m. ....	+8.2	W 4. ....	8	6	Zero clouds; light to mod. haze.
29: 0.20 a. m. ....	+13.2	WSW 5. ....	8	7	Zero clouds; light to mod. haze.
30: 3.24 p. m. ....	+17.7	E 2. ....	7	7	1 Ci; mod. to heavy haze.

## PROVISIONAL SUNSPOT RELATIVE NUMBERS FOR MARCH 1936

[Dependent alone on observations at Zurich and its station at Arosa]

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen. Sternwarte, Zurich, Switzerland]

March 1936	Relative numbers	March 1936	Relative numbers	March 1936	Relative numbers
1	a 74	11	79	21	104
2	68	12	a 67	22	96
3	a 60	13	Ec 59	23	82
4	a 55	14	68	24	53
5	Mc	15	56	25	Ec 49
6	a 60	16	a 61	26	ad
7	Mc 83	17	60	27	d
8	89	18	Mc 66	28	Mc 98
9	Ec 88	19	Macd 87	29	98
10	ad 92	20	112	30	Ec 103
				31	109

Mean, 28 days = 77.7

a = Passage of an average-sized group through the central meridian.

b = Passage of a large group or spot through the central meridian.

c = New formation of a center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central circle zone.

d = Entrance of a large or average-sized center of activity on the east limb.

## POSITIONS AND AREAS OF SUN SPOTS

NOTE.—The reports for March, not having been received, will be included with those for April in the next issue.

## AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. LITTLE, in charge]

By L. T. SAMUELS

At those stations with a sufficient period of record for the determination of approximate normals, upper-air temperatures during March averaged above normal except on the Pacific Coast, where the departures were negative (see table 1). In practically all cases the departures were of moderate magnitude. Mean temperatures for the month were slightly lower over the central and north-central part of the country than over corresponding latitudes in the eastern and western sections.

Upper-air relative humidity departures were, in general, of opposite sign to those for temperature. Mean upper-air relative humidities for the month were strikingly low over Maxwell Field and Pensacola as compared to the other stations.

The directions of the upper-air wind resultants were close to normal in most cases (see table 2). Resultant velocities exceeded the normals over most of the northern stations, and were mostly below normal elsewhere. Departures were in general of small magnitude.

TABLE 1.—Mean free-air temperatures and relative humidities obtained by airplanes during March 1936

TEMPERATURE (° C.)

Stations	Altitude (meters) m. s. l.																Number of observations		
	Surface		500		1,000		1,500		2,000		2,500		3,000		4,000			5,000	
	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal	Mean	Departure from normal		Mean	Departure from normal
Barksdale Field (Shreveport), La. <sup>1</sup> (52 m)	12.8		15.4		13.6		11.0		8.2		5.5		2.8		-3.0		-10.0		30
Billings, Mont. <sup>2</sup> (1,088 m)	-0.9						-1.0		-3.8		-7.5		-11.1		-17.9		-24.5		31
Cheyenne, Wyo. <sup>2</sup> (1,873 m)	-2.4								-1.9		-2.4		-5.2		-12.1		-19.1		29
El Paso, Tex. <sup>2</sup> (1,194 m)	10.2						11.6		9.0		5.4		1.8		-5.3		-11.5		31
Fargo, N. Dak. <sup>2</sup> (274 m)	-6.1		-5.2		-5.4		-6.8		-8.7		-10.6		-13.1		-18.8		-25.9		29
Kelly Field (San Antonio), Tex. <sup>1</sup> (206 m)	12.3		16.2		14.8		13.1		10.9		8.1		4.9		-1.9		-9.3		30
Lakehurst, N. J. <sup>1</sup> (39 m)	4.8		6.0		4.2		2.3		0.1		-2.4		-5.0		-11.6		-21.3		26
Maxwell Field (Montgomery), Ala. <sup>1</sup> (52 m)	10.7		13.1		10.6		7.0		5.0		2.8		+0.3		-5.5		-13.0		24
Mitchel Field (Hempstead, Long Island), N. Y. <sup>1</sup> (29 m)	4.4		5.4		3.6		1.5		-0.3		-2.8		-5.6		-12.6				21
Murfreesboro, Tenn. <sup>2</sup> (174 m)	7.5		10.2		8.5		6.0		3.3		0.6		-2.2		-8.4		-14.9		31
Norfolk, Va. <sup>2</sup> (10 m)	9.9	+2.6	12.1	+5.2	9.6	+4.7	6.4	+3.8	3.9	+3.5	1.2	+2.9	-1.6	+2.4	-8.1	+1.8	-14.0	+1.8	17
Oklahoma City, Okla. <sup>2</sup> (391 m)	10.3		11.6		11.7		9.7		6.9		4.1		1.0		-5.9		-12.9		26
Omaha, Nebr. <sup>2</sup> (300 m)	1.7	+1.9	2.8	+2.3	3.3	+2.3	2.3	+2.0	0.3	+1.5	-2.3	+1.3	-5.5	+1.0	-12.3	+0.7	-19.2	+0.6	31
Pearl Harbor, Territory of Hawaii <sup>1</sup> (6 m)	20.2	-2.3	18.9	-1.0	15.3	-0.9	12.2	-1.2	10.4	-0.7	9.2	-0.2	6.1	-1.1	-0.5	-2.3			31
Pensacola, Fla. <sup>2</sup> (2 m)	14.0	+1.7	14.5	+2.7	12.5	+2.5	10.6	+2.5	8.2	+2.1	5.6	+1.6	3.3	+1.5	-2.6	+1.4	-9.4	+1.2	28
San Diego, Calif. <sup>2</sup> (10 m)	12.3	-1.7	12.2	-0.7	11.9	-0.3	10.3	+0.1	7.6	-0.3	4.5	-0.7	1.3	-1.0	-4.2	-0.2	-10.1	+0.5	30
Scott Field (Belleville), Ill. <sup>1</sup> (135 m)	4.3		6.5		6.2		4.7		2.3		-0.4		-3.3		-9.1		-15.1		31
Seattle, Wash. <sup>2</sup> (10 m)	6.4	-2.4	2.5	-3.3	-0.5	-3.3	-2.8	-2.8	-6.4	-3.4	-10.0	-4.1	-13.3	-4.6	-18.0	-3.6	-25.0	-3.8	8
Spokane, Wash. <sup>2</sup> (596 m)	0.8				2.2		0.4		-2.7		-5.9		-9.4		-16.5		-23.7		31
Washington, D. C. <sup>2</sup> (13 m)	6.2	+0.8	8.1	+3.8	6.1	+3.7	3.7	+3.4	1.3	+3.1	-1.1	+2.8	-4.2	+1.9	-10.0	+1.8	-15.8	+2.0	23
Wright Field (Dayton), Ohio <sup>1</sup> (244 m)	3.4		4.4		4.2		2.6		0.5		-1.8		-4.1		-10.0		-17.1		30

<sup>1</sup> Army.<sup>2</sup> Weather Bureau.<sup>3</sup> Navy.